

Amendments to the Claims

1- 6. (Canceled)

7. (Withdrawn – Currently Amended) A method of treating a condition in a mammal, the treatment of which is effected or facilitated by K_v1.5 inhibition, which comprises administering a compound selected from the group consisting of 7-methoxy-2,3-dimethyl-1-phenyl-2,3-dihydroquinazolin-4(1H)-one; 7-methoxy-2-methyl-4-oxo-1-phenyl-1,4-dihydroquinazolin-1-ium chloride; 2-tert-butyl-7-methoxy-1-phenylquinazolin-4(1H)-one; 2-cyclohexyl-7-methoxy-1-phenylquinazolin-4(1H)-one; and 3-cyclopropyl-7-methoxy-1-phenylquinazoline-2,4(1H,3H)-dione ~~of Claim 1~~ in an amount that is effective at inhibiting K_v1.5.

8. (Withdrawn) A method of Claim 7, wherein the condition is cardiac arrhythmia.

9. (Withdrawn) A method of Claim 8, wherein the cardiac arrhythmia is atrial fibrillation.

10. (Withdrawn) A method of Claim 8, wherein the cardiac arrhythmia is selected from the group consisting of atrial flutter, atrial arrhythmia and supraventricular tachycardia.

11. (Withdrawn- Currently Amended) A method of preventing a condition in a mammal, the prevention of which is effected or facilitated by K_v1.5 inhibition, which comprises administering a compound selected from the group consisting of 7-methoxy-2,3-dimethyl-1-phenyl-2,3-dihydroquinazolin-4(1H)-one; 7-methoxy-2-methyl-4-oxo-1-phenyl-1,4-dihydroquinazolin-1-ium chloride; 2-tert-butyl-7-methoxy-1-phenylquinazolin-4(1H)-one; 2-cyclohexyl-7-methoxy-1-phenylquinazolin-4(1H)-one; and 3-cyclopropyl-7-methoxy-1-phenylquinazoline-2,4(1H,3H)-dione ~~of Claim 1~~ in an amount that is effective at inhibiting K_v1.5.

12. (Withdrawn) A method of Claim 11, wherein the condition is cardiac arrhythmia.

13. (Withdrawn) A method of Claim 12, wherein the cardiac arrhythmia is atrial fibrillation.

14. (Withdrawn) A method of Claim 12, wherein the cardiac arrhythmia is selected from the group consisting of atrial flutter, atrial arrhythmia and supraventricular tachycardia.

15. (Withdrawn) A method of Claim 11, wherein the condition is a thromboembolic event.

16. (Withdrawn) A method of Claim 15, wherein the thromboembolic event is a stroke.

17. (Withdrawn) A method of Claim 11, wherein the condition is congestive heart failure.

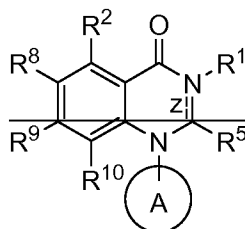
18-20 (Canceled)

20. (Withdrawn- Currently Amended) A method of treating cardiac arrhythmia comprising administering a compound of Claim 4 with a compound selected from one of the classes of compounds consisting of antiarrhythmic agents having Kv1.5 blocking activities, ACE inhibitors, angiotensin II antagonists, cardiac glycosides, L-type calcium channel blockers, T-type calcium channel blockers, selective and nonselective beta blockers, endothelin antagonists, thrombin inhibitors, aspirin, nonselective NSAIDs, warfarin, factor Xa inhibitors, low molecular weight heparin, unfractionated heparin, clopidogrel, ticlopidine, IIb/IIIa receptor antagonists, 5HT receptor antagonists, integrin receptor antagonists, thromboxane receptor antagonists, TAFI inhibitors and P2T receptor antagonists.

21. (Withdrawn –Currently Amended) A method for inducing a condition of normal sinus rhythm in a patient having atrial fibrillation, which comprises treating the patient with a compound of Claim 4.

22. (Withdrawn- Currently Amended) A method for treating tachycardia in a patient which comprises treating the patient with an antitachycardia device in combination with a compound of Claim 4.

23. (Currently Amended) A compound ~~having the formula~~



wherein

~~or a pharmaceutically acceptable salt thereof, wherein~~

~~z is a single or double bond;~~

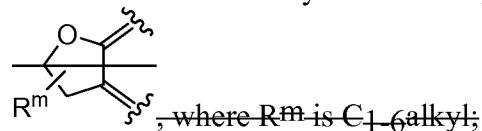
~~A is an aryl ring, wherein any stable aryl ring atom is independently unsubstituted or substituted with~~

- 1) halogen,
- 2) NO₂,
- 3) CN,
- 4) CR⁴⁶=C(R⁴⁷R⁴⁸)₂,
- 5) C≡C R⁴⁶,
- 6) (CRⁱR^j)_fOR⁴⁶,
- 7) (CRⁱR^j)_fN(R⁴⁶R⁴⁷)_g,
- 8) (CRⁱR^j)_fC(O)R⁴⁶,
- 9) (CRⁱR^j)_fC(O)OR⁴⁶,
- 10) (CRⁱR^j)_fR⁴⁶,
- 11) (CRⁱR^j)_fS(O)₀₋₂R⁶¹,
- 12) (CRⁱR^j)_fS(O)₀₋₂N(R⁴⁶R⁴⁷)_g,
- 13) OS(O)₀₋₂R⁶¹,
- 14) N(R⁴⁶)C(O)R⁴⁷,
- 15) N(R⁴⁶)S(O)₀₋₂R⁶¹,
- 16) (CRⁱR^j)_fN(R⁴⁶)R⁶¹,
- 17) (CRⁱR^j)_fN(R⁴⁶)R⁶¹OR⁴⁷,
- 18) (CRⁱR^j)_fN(R⁴⁶)(CR^kR^l)_sC(O)N(R⁴⁷R⁴⁸)_t,
- 19) N(R⁴⁶)(CRⁱR^j)_fR⁶¹,
- 20) N(R⁴⁶)(CRⁱR^j)_fN(R⁴⁷R⁴⁸)_t,
- 21) (CRⁱR^j)_fC(O)N(R⁴⁷R⁴⁸)_t, or
- 22) oxo,

R², R⁸, R⁹ and R¹⁰ are independently selected from:

- 1) hydrogen;
- 2) halogen;
- 3) NO₂;
- 4) CN;
- 5) CR⁴³=C(R⁴⁴R⁴⁵);
- 6) C=CR⁴³;
- 7) (CR^eR^f)_pOR⁴³;
- 8) (CR^eR^f)_pN(R⁴³R⁴⁴);
- 9) (CR^eR^f)_pC(O)R⁴³;
- 10) (CR^eR^f)_pC(O)OR⁴³;
- 11) (CR^eR^f)_pR⁴³;
- 12) (CR^eR^f)_pS(O)₀₋₂R⁶⁰;
- 13) (CR^eR^f)_pS(O)₀₋₂N(R⁴³R⁴⁴);
- 14) OS(O)₀₋₂R⁶⁰;
- 15) N(R⁴³)C(O)R⁴⁴;
- 16) N(R⁴³)S(O)₀₋₂R⁶⁰;
- 17) (CR^eR^f)_pN(R⁴³)R⁶⁰;
- 18) (CR^eR^f)_pN(R⁴³)R⁶⁰OR⁴⁴;
- 19) (CR^eR^f)_pN(R⁴³)(CR^gR^h)_qC(O)N(R⁴⁴R⁴⁵);
- 20) N(R⁴³)(CR^eR^f)_pR⁶⁰;
- 21) N(R⁴³)(CR^eR^f)_pN(R⁴⁴R⁴⁵); and
- 22) (CR^eR^f)_pC(O)N(R⁴³R⁴⁴);

or R² and R⁸ are independently as defined above, and R⁹ and R¹⁰, together with the atoms to which they are attached, form the ring



R¹ is selected from the group consisting of

- 1) hydrogen;
- 2) (CR^aR^b)_nR⁴⁰
- 3) (CR^aR^b)_nOR⁴⁰;
- 4) (CR^aR^b)_nN(R⁴⁰R⁴¹);
- 5) (CR^aR^b)_nN(R⁴⁰)C(O)OR⁴¹;
- 6) (CR^aR^b)_nN(R⁴⁰)(CR^cR^d)₂N(R⁴¹)C(O)R⁴⁹;
- 7) C₃₋₈-cycloalkyl;
- 8) (CR^aR^b)_nC(O)OR⁴⁰;

- 9) $(CR^aR^b)_H N(R^{40})(CR^eR^d)_{1-3} R^{41}$;
- 10) $(CR^aR^b)_H S(O)_{0-2} R^6$;
- 11) $(CR^aR^b)_H S(O)_{0-2} N(R^{40}R^{41})$;
- 12) $(CR^aR^b)_H N(R^{40})R^6OR^{41}$;
- 13) $(CR^aR^b)_H N(R^{40})(CR^eR^d)_{0-6} C(O)N(R^{41}R^{42})$;

or R^1 is absent when z is a double bond

R^5 is selected from the group consisting of

- 1) C₁₋₆ alkyl;
- 2) =O
- 3) aryl
- 4) C₃₋₁₀ cycloalkyl
- 5) C₁₋₆ alkylene-C(O) R^{11} ;
- 6) C₁₋₆ alkylene-C(O) R^{13}
- 7) C(O) R^{11} ;
- 8) C(O) R^{13} ;
- 9) C(O)OR¹¹;
- 10) C(O)OR¹³;
- 11) C(O)N($R^{11}R^{11}$);
- 12) C(O)N($R^{13}R^{13}$);
- 13) C(O)N($R^{11}R^{13}$);
- 14) CN;
- 15) NHC(O) R^{11} ;
- 16) NHC(O)CF₃; and
- 17) NHC(O)C₂₋₆ alkyl;

R^{11} is selected from the group consisting of

- 1) aryl; and
- 2) an unsubstituted or substituted heterocyclic ring consisting of a 4-6 membered unsaturated or saturated monocyclic ring with 1, 2, 3 or 4 heteroatom ring atoms selected from the group consisting N, O and S, and a 9- or 10-membered unsaturated or saturated bicyclic ring with 1, 2, 3 or 4 heteroatom ring atoms selected from the group consisting or N, O or S; and

R^{13} is selected from the group consisting of

- 1) C₁₋₆ alkyl;
- 2) C₁₋₆ alkyloxy;
- 3) C₁₋₆ alkenyl;

4) ~~C₁-6alkynyl~~, and

5) ~~CF₃~~;

~~R^a, R^b, R^c, R^d, R^e, R^f, R^g, R^h, Rⁱ, R^j, R^k, and R^l~~ are independently selected from the group consisting of:

1) hydrogen,

2) ~~C₁-C₆-alkyl~~,

3) halogen,

4) aryl,

5) ~~R⁸⁰~~,

6) ~~C₃-C₁₀-cycloalkyl~~, and

7) ~~OR⁴~~,

said alkyl, aryl, and cycloalkyl being unsubstituted, monosubstituted with ~~R⁷~~, disubstituted with ~~R⁷ and R¹⁵~~, trisubstituted with ~~R⁷, R¹⁵ and R¹⁶~~, or tetrasubstituted with ~~R⁷, R¹⁵, R¹⁶ and R¹⁷~~;

~~R⁴, R⁴⁰, R⁴¹, R⁴², R⁴³, R⁴⁴, R⁴⁵, R⁴⁶, R⁴⁷, R⁴⁸, R⁴⁹, R⁵¹, and R⁵²~~ are independently selected from:

1) hydrogen,

2) ~~C₁-C₆-alkyl~~,

3) ~~C₃-C₁₀-cycloalkyl~~,

4) aryl,

5) ~~R⁸¹~~,

6) ~~CF₃~~,

7) ~~C₂-C₆-alkenyl~~, and

8) ~~C₂-C₆-alkynyl~~,

said alkyl, aryl, and cycloalkyl is unsubstituted, mono-substituted with ~~R¹⁸~~, di-substituted with ~~R¹⁸ and R¹⁹~~, tri-substituted with ~~R¹⁸, R¹⁹ and R²⁰~~, or tetra-substituted with ~~R¹⁸, R¹⁹, R²⁰ and R²¹~~;

~~R⁶, R⁶⁰, R⁶¹, and R⁶³~~ are independently selected from:

1) ~~C₁-C₆-alkyl~~,

2) aryl,

3) ~~R⁸³~~, and

4) ~~C₃-C₁₀-cycloalkyl~~;

said alkyl, aryl, and cycloalkyl is unsubstituted, mono-substituted with ~~R²⁶~~, di-substituted with ~~R²⁶ and R²⁷~~, tri-substituted with ~~R²⁶, R²⁷ and R²⁸~~, or tetra-substituted with ~~R²⁶, R²⁷, R²⁸ and R²⁹~~;

~~R⁷, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²⁶, R²⁷, R²⁸, and R²⁹ are independently selected from:~~

- 1) ~~C₁-C₆-alkyl,~~
- 2) ~~halogen,~~
- 3) ~~OR⁵¹,~~
- 4) ~~CF₃,~~
- 5) ~~aryl,~~
- 6) ~~C₃-C₁₀-cycloalkyl,~~
- 7) ~~R⁸⁴,~~
- 8) ~~S(O)₀₋₂N(R⁵¹R⁵²),~~
- 9) ~~C(O)OR⁵¹,~~
- 10) ~~C(O)R⁵¹,~~
- 11) ~~CN,~~
- 12) ~~C(O)N(R⁵¹R⁵²),~~
- 13) ~~N(R⁵¹)C(O)R⁵²,~~
- 14) ~~S(O)₀₋₂R⁶³,~~
- 15) ~~NO₂, and~~
- 16) ~~N(R⁵¹R⁵²);~~

~~R⁸⁰, R⁸¹, R⁸³ and R⁸⁴ are independently selected from a group of unsubstituted or substituted heterocyclic rings consisting of a 4-6 membered unsaturated or saturated monocyclic ring with 1, 2, 3 or 4 heteroatom ring atoms selected from the group consisting N, O and S, and a 9- or 10-membered unsaturated or saturated bicyclic ring with 1, 2, 3 or 4 heteroatom ring atoms selected from the group consisting of N, O or S; and n, p, q, r, and s are independently 0, 1, 2, 3, 4, 5 or 6, provided that, when R⁹ is hydrogen, A is substituted as defined above;~~

~~and wherein said compound is selected from the group consisting of 7-methoxy-2,3-dimethyl-1-phenyl-2,3-dihydroquinazolin-4(1H)-one; 7-methoxy-2-methyl-4-oxo-1-phenyl-1,4-dihydroquinazolin-1-ium chloride; 2-tert-butyl-7-methoxy-1-phenylquinazolin-4(1H)-one; 2-cyclohexyl-7-methoxy-1-phenylquinazolin-4(1H)-one; and 3-Cyclopropyl-7-methoxy-1-phenylquinazoline-2,4(1H,3H)-dione.~~

Claim 24 (Previously presented) A pharmaceutical formulation comprising a pharmaceutically acceptable carrier and the compound of Claim 23 or a pharmaceutically acceptable crystal form or hydrate thereof.